

ACCESSION NR: AP4039283

component of wave number in medium k_0 along the z -axis. For a large plate dimension the above expression can be given in an integral form

$$v(x) \approx \frac{2}{a} \int_0^{\infty} v(k) \cos kx \frac{d\omega_n}{\varepsilon(\omega_n)} \approx \frac{2}{\pi} \int_0^{\infty} v(k) \cos kx dk,$$

$$p(x, z) = \frac{2}{a} \int_0^{\infty} p(k) e^{ikz} \cos kx \frac{d\omega_n}{\varepsilon(\omega_n)} \approx \frac{2}{\pi} \int_0^{\infty} p(k) e^{ikz} \cos kx dk.$$

In the equation of motion of the plate the stress at the plate boundary $F(x)$ is also given by its inverse transform. $F(x) \approx \frac{2}{a} \sum_{n=1, \dots}^{\infty} F(k_n) \cos k_n x = \frac{1}{\pi} \int_{-\infty}^{\infty} F(k) e^{ikz} dk$, giving rise to

the relationship $v(k) = \frac{F(k)}{k^4 - k_{cp}^4}$, which, after substitution in the energy

equation and integration over k , yields the result $W \approx \frac{2b\rho_0 c_0 k_0 \omega^3}{k_{cp}^2 B^2} \left\{ |F|^2 \left[1 + J_0^2(k_0 a) \right] + |M|^2 k_0^2 \left[\frac{1}{2} + J_0^2(k_0 a) - \frac{1}{k_0 a} J_1(k_0 a) \right] \right\}$

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ACCESSION NR: AP4039283

The Bessel functions are then determined for the special cases of $k_0 a \ll 1$ and $k_0 a \gg 1$. Numerical computations show that the most effective plate radiation is obtained for the fixed edge case, with impedances $Z_p = Z_M = \infty$ (relative to cutoff force and flexural moment, respectively). Orig. art. has: 26 equations, 3 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 13Jul63

DATE ACQ: 12Jun64

ENCL: 00

SUB CODE: GP

NO REF SOV: 000

OTHER: 002

Card 3/3

PANASENKO, Vasilii Grigor'yevich; KUBAREV, K.P., retsenzent; ZAVATSKIY, M.A., retsenzent; SVIRIDOV, N.P., retsenzent; KHABAROV, L.N., retsenzent; NIKIFOROV, A.S., red.

[Study of materials used in carpentry and furniture manufacture] Materialovedenie stoliarno-mebel'nykh proizvodstv. Moskva, Lesnaya promyshlennost', 1964. 204 p. (MIRA 18:3)

L 41697-66 EWT(m)/EWF(w) LJP(c) WW/EM

ACC NR: AP6019574

SOURCE CODE: UR/0115/66/000/004/0031/0032

AUTHOR: Nikiforov, A. S.

ORG: none

TITLE: Method of measuring vibration isolation

SOURCE: Izmeritel'naya tekhnika, no. 4, 1966, 31-32

TOPIC TAGS: vibration analysis, vibration isolation, vibration test, acoustic impedance ~~CR-3 Loudspeaker~~

ABSTRACT: The method described is one for which an Authors Certificate has been awarded to the author (no. 147792, Byull. izobr. no. 11, 1962). The method is based on the use of a rod, one end of which is excited by a transverse force and the other is made in the form of a wedge imbedded in sand to eliminate reflection. The difference between the impedances of the rod when free and when loaded with the investigated vibration isolating device serves as a measure of the isolating ability of the latter. The method was checked by measuring the vibrations of a rod 3 m long and 0.8 x 3 cm in cross section, 1 m of which was made wedge-like and buried in sand, and the other was suspended with the aid of a mechanical filter (alternating masses and elastic springs) and excited with an electrodynamic loudspeaker (LGD-3). Miniature piezoelectric converters (15 g weight each) mounted on the loudspeaker and rod yielded the amplitude ratio and the phase of the oscillations. An obstacle in the form of a trapezoidal mass was attached to the rod at a distance 1 m from the excited

Card 1/2

UDC: 620.178.53

L 41697-66

ACC NR: AP6019574

end. The measurement results agreed with the values predicted by the impedance calculations. Orig. art. has: 7 formulas and 1 table.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 001/ OTH REF: 003

Card 2/2 Jo

KONONOV, Yuriy Veniaminovich; NIKIFOROV, Aleksey Semenovich; LUKOVTSSEV, A.A., inzh., red.; PETUKHOV, P.Z., doktor tekhn.nauk, red.; RUDIN, S.N., inzh., red.; SUSTAVOV, M.I., inzh., red.; KHRISANOV, M.I., kand.tekhn.nauk, red.; SHABASHEV, P.A., kand. tekhn.nauk, red.; BEZUKLADNIKOV, M.A., red.izd-va; DUGINA, N.A., tekhn.red.

[Improvements in the technique of assembling bridge cranes]
Usoverashenstvovaniia v tekhnologii sborki mostovykh kranov.
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1961.
90 p. (Biblioteka slesaria-montazhnika, no.5).

(MIRA 14:7)

(Cranes, derricks, etc.)

KONONOV, Yuriy Veniaminovich; NIKIFOROV, Aleksey Semenovich; DUGINA,
N.A., tekhn. red.

[Improvements in the technology of the assembly of bridge
cranes]Usovershenstvovaniia v tekhnologii sborki mostovykh
kranov. Izd.2. Moskva, Mashgiz, 1962. 86 p. (Biblioteka
slesaria-montazhnika, no.5) (MIRA 15:11)
(Cranes, derricks, etc.)

NIKIFOROV, Aleksey Stepanovich; RYBITSKIY, Nikolay Antonovich; GORYACHEVA,
Ye.P., kand.sei'skokhoz.nauk, nauchnyy red.; DANILEVSKAYA, O.N.,
red.; TIKHONOVA, I.M., tekhn.red.

[Manual for controlling diseases and pests of fruits and berries]
Rukovodstvo po bor'be s vrediteliami i bolezniami plodovykh i
lagodnykh kul'tur. Leningrad, Lenizdat, 1960. 95 p.

(MIRA 13:12)

(Fruit--Diseases and pests)

MATVEYEV, P.S.; NIKIFOROV, A.V.

Detailedness of ore-deposit prospecting prior to their industrial
exploitation. Sov. geol. 3 no.3:113-119 Mr '60. (MIRA 13:11)

1. Gipronikel' i Giproaluminii.
(Ore deposits)

LIKHACHEV, V.A.; MALYGIN, G.A.; NIKIFOROV, A.V.; VLADIMIROVA, G.V.

Creep of zinc during heating-cooling cycles. Fiz. met. i metalloved.
16 no.6:908-917 D '63. (MIRA 17:2)

1. Fiziko-tekhnicheskii institut imeni A.F.Ioffe AN SSSR.

NIKIFOROV, A. V. inzh.

Increasing the life of working mechanism parts of a dredger. Rech.
transp. 19 no.11:38-40 N '60. (MIRA 13:11)
(Dredging machinery)

POTASHNIK, Ye.M., inzh.; NIKIFOROV, A.V., inzh.

Some problems of the development of earthwork using hydraulic
engineering machinery in the Ukrainian S.S.R. Mekh. stroi. 19
no.9:5-8 S '62. (MIRA 15:9)
(Ukraine--Earthmoving machinery)

ARKIN, M.Ya.; MIROTVORSKIY, V.S.; NIKIFOROV, A.Ya.

Laboratory system for the deoxydation of inert gases.
Zav. lab. 31 no.11:1418-1419 '65. (MIRA 19:1)

L 26125-66 EWT(1)/EWP(e)/EWT(m) IJP(c) JD/WW/JQ/CG/WH

AGC NR: AP6015803

SOURCE CODE: UR/0386/66/003/010/0401/0404

AUTHOR: Sherstkov, Yu. A.; Nepsha, V. I.; Nikiforov, A. Ye.; Cherepanov, V. I.ORG: Ural State University (Ural'skiy gosudarstvennyy universitet)TITLE: Influence of an external electric field on the EPR signals of pairs of exchange-coupled chromium ions in ruby 55
B

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 3, no. 10, 1966, 401-404

TOPIC TAGS: electron paramagnetic resonance, line splitting, corundum, chromium, resonance absorption, exchange reaction

ABSTRACT: The use of an effect predicted theoretically by one of the authors (Nikiforov, Fiz. tverdogo tela v. 7, 1248, 1965), consisting in nonlinear splitting of EPR signals of pairs of exchange-coupled Cr^{3+} ions in corundum, is proposed for a unique interpretation of the many weaker supplementary EPR signals in corundum due to pairs of exchange-coupled chromium ions. The effect was used to investigate experimentally the spectral regions from 480 to 680 G and from 850 to 1200 G in a corundum crystal containing 0.05% chromium by weight. The RE 1301 apparatus was used for the measurement. For $H \parallel E \parallel C_3$ (H and E are the electric and magnetic field intensities and C_3 the corundum optical axis) the influence of the electric field was observed in five signals at 525, 590, 926, 994, and 1093 G. From plots of the derivative of the absorption signal and of the theoretical dependence of the splittings of the EPR signals

Card 1/2 2

L 26125-66

ACC NR: AF6015803

on E for the transitions for which nonzero line splitting is possible, as well as from other experimental data, it is deduced that the signals are due to pairs and not to iron and manganese impurities. It is deduced that a combination of the method of measuring signal splitting in an electric field (which determines the type of transition) and methods involving temperature and angle measurements will make it possible to relate the observed signals to concrete pairs, and that investigations of the observed effect in magnetically dilute crystals, over a wide range of magnetic fields, will yield more complete information on the exchange interaction of paramagnetic ions. Orig. art. has: 2 figures and 1 formula.

SUB CODE: 20/ SUBM DATE: 18Mar66/ ORIG REF: 005/ OTH REF: 003

Card 2/2 *h*

L 33190-66 EWT(1)/EWT(m)/EWP(1)/EIL IJP(c) JD/AT

ACC NR: AR6016169

SOURCE CODE: UR/0058/65/000/011/D003/D003

AUTHORS: Druzhinin, V. V.; Kurushin, Yu. N.; Men', A. N.; Neysn, V. Ye.; Nikiforov, A. Ye.; Cherepanov, V. I.

TITLE: Contribution to the theory of energy spectra of paramagnetic ions in certain oxides

SOURCE: Ref. zh. Fizika, Abs. 11D16

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 514-519

TOPIC TAGS: paramagnetic ion, spectrum, ION ENERGY

ABSTRACT: Calculations are presented of the energy spectrum of a paramagnetic ion in a crystal with spinel structure in the approximation of the average intracrystal-line field. It is shown that allowance for the field due to the second and farther neighbors can exert an appreciable influence on the interpretation of the spectra of such ions. Quantitative calculation results are presented for Cr³⁺ in MgAl₂O₄ and experimental data on this ion. [Translation of abstract]

SUB CODE: 20

Cord 1/1 MC

L 41583-56 EWT(T) AT

SOURCE CODE: UR/0181/66/008/006/1677/1682

ACC NR: AF6018525

AUTHOR: Nikiforov, A. Ye.ORG: Ural State University im. A. M. Gor'kiy, Sverdlovsk (Ural'skiy gosudarstvennyy universitet)TITLE: Concerning the influence of the electric field on the optical spectrum of exchange-coupled pairs of ions of $3d^3$ configuration in corundum

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1677-1682

TOPIC TAGS: optic spectrum, Stark effect, corundum, line splitting, ion interaction, dipole interaction

ABSTRACT: For the purpose of identifying various lines in the long-wave region of the spectrum with ion pairs and with definite transitions in the ion pairs, the author considers theoretically the Stark effect on optical-spectrum lines due to the exchange-coupled pairs of impurity ions of configuration $3d^3$ in corundum. The spectral-line splitting caused by the electric field is calculated by taking into account the combined action of the charge-dipole interaction of the ion pairs and the external electric field. The splitting is expressed in terms of the splitting of the R-lines in dilute samples and the structural parameters of the pair. It is shown that the charge-dipole interaction causes the interactions of the ion pairs to depend on the type of orientation of the pair, and this can be used to identify the lines in the spectrum. The constants involved in the calculation can be determined by comparison with already

Card 1/2

L 41583-66

ACC NR: AP6018525

identified lines. It is concluded that, unlike the Stark effect on R-lines in dilute samples, splitting should be observed also when the field is perpendicular to the crystal axis. Orig. art. has: 13 formulas.

SUB CODE: 20 SUBM DATE: 17Sep65/ ORIG REF: 010/ OTH REF: 005

Card 2/2

NIKIFOROV, B.D.

KALININ, V.K.; MIRONOV, K.A.; VITEVSKIY, I.V.; NIKIFOROV, B.D.; SESYUNIN,
V.S.; SOBOLEV, V.M.; ZOROKHOVICH, A.Ye., kandidat tekhnicheskikh nauk;
VERINA, G.P., tekhnicheskiy redaktor.

[Electric circuits of electric locomotives and maintenance of the
equipment] Elektricheskie skhemy elektrovozov i ukhod za apparaturoi.
Moskva, Gos.transp.zhel-dor.izd-vo, 1955. 178 p. (MIRA 8:4)
(Electric locomotives)

CHEREPANOV, V.I.; DRUZHININ, V.V.; KARGAPOLOV, Yu.A.; NIKIFOROV, A.Ye.

Effect of an electric field on the quadrupole lines in the
spectrum of exciton absorption of light. Fiz.tver.tela 3
no.10:2987-2995 0 '61. (MIRA 14:10)

1. Ural'skiy gosudarstvennyy universitet imeni A.M.Gor'kogo.
(Crystals--Spectra) (Excitons) (Electric fields)

L-16151-65 EWP(e)/EWT(m) ESD(gs)/ESD(t)/RAEM(c)/SSD/BSO/AFWL/ASD(x)-5
WH

ACCESSION NR: AP4048402

S/0181/64/006/011/3288/3293

AUTHOR: Nikiforov, A. Ye.; Men', A. N.; Cherepanov, V. I. B

TITLE: Contribution to the theory of the optical spectrum of bound pairs of impurity ions in a crystal

SOURCE: Fizika tverdogo tela, v. 6, no. 11, 1964, 3288-3293

TOPIC TAGS: Crystal impurity, impurity content, spectrum line, line shift, ion pair, ruby, spinel, energy spectrum

ABSTRACT: A group theory is used to calculate the energy spectrum of a pair of ions interacting by excitation exchange. The analysis shows that additional lines should appear near the line of each individual impurity ion with increasing impurity-ion concentration in the crystal. Specific calculations are made for a pair of Cr^{3+} ions in ruby and in spinel, for which experimental data are available. The estimates for ruby show that the shift of

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L 16151-65

ACCESSION NR: AP4048402

the additional lines relative to the R-line is on the order of 10^2 -- 10^3 cm^{-1} , which agrees with the experimental data of A. L. Schawlow (J. Appl. Phys. v. 33, 395, 1962) for the N-lines in ruby. The sign of the displacement depends on the sign and direction of the difference of the dipole moments in the excited and ground states of the individual ion, and the sign of its charge. Since pairs with both directions are present in ruby, additional lines are to be expected within 10^2 -- 10^3 cm^{-1} of both the short-wave and long-wave sides of the R-lines. The need for additional theoretical calculations is indicated, especially in view of symmetry distortions that can be produced by thermal vibrations, higher-order neighbors, or various defects. Orig. art. has: 3 figures and 15 formulas.

ASSOCIATION: Ural'skiy gosudarstvennyy universitet im. A. M.
(or'kogo, Sverdlovsk (Ural State University))

SUBMITTED: 28Jan64

ENCL: 00

SUB CODE: SS, OP

NO REF SOV: 006

OTHER: 008

ATD PRESS: 3146

Card 2/2

L 52518-65 EWI(1)/EPF(c)/EEC(t) PI-4 LJP(c) MW/CG

ACCESSION NR: AF5010728

UR/0181/65/007/004/1162/1168

AUTHOR: Nikiforov, A. Ye.; Cherepanov, V. I.

TITLE: Contribution to the theory of the electron paramagnetic resonance spectrum of pairs of exchange-coupled paramagnetic ions in crystals

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1162-1168

TOPIC TAGS: electron paramagnetic resonance, spin Hamiltonian, exchange coupling, paramagnetic ion, exchange interaction, epr spectrum

ABSTRACT: The authors derive the spin Hamiltonian for a pair of exchange-coupled paramagnetic ions in a crystal for the case of strong and weak exchange interaction between the ions of the pairs. The derivation is obtained by a method analogous to that used by Pryce and Abragam (Proc. Phys. Soc. A63, 25, 1950 and Proc. Roy. Soc. A205, 135, 1951) for one ion. The ground state of each ion in the crystal is assumed to be orbitally nondegenerate. The Heitler-London approximation is used for the wave function of the ion pair, resonance interaction between the ion pairs is disregarded, the exchange interaction is assumed to be isotropic, and the ex-

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L 52518-65

ACCESSION NR: AP5010728

change integral for the pair is assumed to be the same for the ground and excited states of the paired ions. It is shown that in the case of exchange interaction the spin Hamiltonian coincides with that obtained by H. Stetz et al. (J. Appl. Phys., Suppl., 32, 218, 1961), and in the case of strong exchange interaction it has the same form but differs in the dependence of the interaction constants on the total spin of the pair. As an example, the case of a pair of Cr^{3+} ions in corundum is considered, and the EPR spectrum of such pairs is calculated. The results agree with those of Stetz et al. Orig. art. has: 10 formulas and 2 tables.

ASSOCIATION: Ural'skiy gosudarstvennyy universitet, Sverdlovsk (Ural State University)

SUBMITTED: 17Aug64

ENCL: 00

SUB CODE: 88, 8P

MR REF SOV: 001

OTHER: 006

LL
Card 2/2

L 52779-65 EWT(1)/EWP(e)/EPA(s)-2/EWT(m)/EWP(i) Pt-7 IJP(c) WH
ACCESSION NR: AP5010749 UR/0181/65/007/004/1248/1250

AUTHOR: Nikiforov, A. Ye.

TITLE: Concerning the influence of an electric field on the EPR spectrum of chromium ion pairs in corrundum ♡

25
21
B
21

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1248-1250

TOPIC TAGS: chromium, corundum, ion pair, epr spectrum, electric field effect

ABSTRACT: The purpose of the investigation was to obtain additional information to identify the observed EPR signals with the pair-spectrum transitions previously obtained theoretically by the author (with V. I. Cherepanov, FTT v. 7, 948, 1965). The spin Hamiltonian derived in the earlier paper for the pair of exchange-coupled paramagnetic ions in the crystal is modified to allow for the influence of the electric field on the EPR spectrum of the pair. The pairs that can be observed in ruby are identified, as well as the pairs for which a linear shift in the EPR signals (pseudo-Stark splitting) can be observed are identified and it is shown that the type of pair to which the signal observed in the EPR spectrum can be determined

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L 52779-65

ACCESSION NR: AP5010749

as a result of the analysis. It is also shown that it may be possible to determine the exchange integral for certain types of pairs from experiments on the pseudo-Stark splitting of the lines in the EPR spectrum. Orig. art. has: 6 formulas and 1 table.

ASSOCIATION: Ural'skiy gosudarstvennyy universitet im. A. M. Gor'kogo, Sverdlovsk (Ural State University)

SUBMITTED: 13Nov64

ENCL: 00

SUB CODE: LM, NP

HR REF SOV: 002

OTHER: 001

OL
Card 2/2

I-9569-66 EWT(1) IJP(c) WW/GG/AT

ACC NR: AP5027437

SOURCE CODE: UR/0191/65/007/011/3431/3432

AUTHOR: ^{44,55} Nikiforov, A. Ye.; ^{44,55} Cherepanov, V. I.

55
B

ORG: ^{44,55} Ural State University, Sverdlovsk (Ural'skiy gosudarstvennyy universitet)

TITLE: Correction to the article "Theory of electron paramagnetic resonance spectrum of exchange-coupled paramagnetic ions in crystals" (FTT, 7, 1162, 1965)

SOURCE: Fizika tverdogo tela, v. 7, no. 11, 1965, 3431-3432

TOPIC TAGS: crystal, corundum, ^{21,44,55} EPR spectrum, ^{21,44,55} paramagnetic ion

ABSTRACT: An inaccuracy was overlooked in the original article in derivation of the spin Hamiltonian of an ion pair with strong exchange interaction. In averaging the energy differences between the ground level of the pair and the excited multiplets, multiplication by the static weights of the components was omitted. Averaging should be done according to the formula

$$\frac{1}{G_{I,B}} = \sum_{S'} \frac{(2S'+1) G_{I,BS'}}{S'}$$

where

$$G_{I,BS'} = 1 + \frac{1}{2(I(I+1) - S(S+1))} \left\{ \frac{J'}{2} [S(S+1) - S_A(S_A+1) - S_B(S_B+1)] - \frac{J}{2} [S(S+1) - S_A(S_A+1) - S_B(S_B+1)] \right\}$$

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L 9569-66

ACC NR: AP5027437

After averaging according to this formula with regard to the theorem on invariance of the "center of gravity" of the multiplet, the formula

$$\frac{1}{G_{i,s}} = 1 + \frac{J}{2(\sigma_i^{(j)} - \sigma_s^{(j)})} [S(S+1) - S_A(S_A+1) - S_B(S_B+1)].$$

is obtained. Thus the assumption $J' = J$ in the original paper is unnecessary since J' does not appear in the final result. The expressions for the spin Hamiltonian constants $D^{(j)}$, $g_1^{(j)}$ and $g_2^{(j)}$

for the case of axial symmetry have the form

$$\frac{D^{(j)}}{D} = \frac{1}{G_B}, \quad \frac{2 - g_2^{(j)}}{2 - g_1^{(j)}} = \frac{1}{G_B} \quad (\sigma = | \text{HAB} - 1 |),$$

where

$$\frac{1}{G_B} = 1 + \frac{J}{2\Delta_0} [S(S+1) - S_A(S_A+1) - S_B(S_B+1)],$$

and Δ_0 is the energy interval between the ground level and the first excited level where the dipole optical transition is allowed for σ polarization. The following expressions are obtained for the case of the closest chromium ion pair in corundum ($S_A = S_B = \frac{3}{2}$, $J = 390 \text{ cm}^{-1}$, $\Delta_1 = 18450 \text{ cm}^{-1}$, $\Delta_2 = 18000 \text{ cm}^{-1}$)

$$\frac{D^{(1)}}{D} = 0.940, \quad \frac{D^{(2)}}{D} = 0.984, \quad \frac{D^{(3)}}{D} = 1.05, \quad \frac{2 - g_2^{(1)}}{2 - g_1^{(1)}} = 0.940, \quad \frac{2 - g_2^{(2)}}{2 - g_1^{(2)}} = 0.942, \quad \frac{2 - g_2^{(3)}}{2 - g_1^{(3)}} = 0.984,$$

$$\frac{2 - g_1^{(1)}}{2 - g_2^{(1)}} = 0.985, \quad \frac{2 - g_1^{(2)}}{2 - g_2^{(2)}} = 1.05, \quad \frac{2 - g_1^{(3)}}{2 - g_2^{(3)}} = 1.04.$$

Beh

Card 2/2 SUB CODE: 20.07/ SUBM DATE: 04 Jun 65/ ORIG REF: 000/ OTH REF: 000

NIKIFOROV, B. D.

Translation from: Referativnyy Zhurnal, Mashinostroyeniye, 1957, 123-1-1004
Nr 1, p. 151 (USSR)

AUTHOR: Nikiforov, B. D.

TITLE: Experimental Operation of EA -22 Electric Locomotive
at the Chusovskaya Depot of the Sverdlovsk Railroad Line
(Opyt ekspluatatsii elektrovozov EA -22 v elektrovoznom
depo Chusovskaya Sverdlovskoy zheleznoy dorogi)

PERIODICAL: In sbornik: Materialy nauchno-tekhnich. soveshchaniya
po tyagovomu elektrooborudovaniyu. November, 1953, Riga,
1955, pp. 18-26

ABSTRACT: Bibliographic entry

Card 1/1

HIKIFOROV, B.D., inzh.; KORKOT'YAN, M.A., inzh.

Electric locomotives from the Perm and Chusovskaya shops should be
used more effectively. Elek. i tepl. tiaga 4 no.2:11-13 F '60.
(MIRA 13:6)

(Perm Province--Electric locomotives)

LEVIN, I.G., inzh.; NIAFOMI, O.I., dotsent

Determining the coefficient of braking in a moving train. Izv.
Ural. elektromekh. inst. inzh. zhel. dor. transp. no.5:127-137
'62. (MIRA 17:8)

SPIRIDONOV, A.H.; SHVARTS, L.S.; LARINA, V.S.; NIKIFOROV, B.I.

Late results of surgery in gastric and duodenal ulcer. *Kaz.med.*
zhur. 40 no.5:25-29 S-0 '59. (MIRA 13:7)

1. Iz gospiatal'nykh klinik Saratovskogo meditsinskogo instituta.
(PEPTIC ULCER)

NIKIFOROV, B.I. (Saratov, Novo-Astrakhanskoye shosse, d. 2/7, kv. 60)

Determination of the reliability of various methods of internal fixation in fractures of the upper end of the femoral bone in an experiment. Ortop., travm. i protez. 26 no. 5:8-13 My '65.
(XLR 18:10)

1. Iz kafedry hospital'noy khirurgii (zav. - doktor med. nauk G.N. Zakharova) lechobnogo fakul'teta Saratovskogo meditsinskogo instituta.

NIKIFOROV, B.I., prof.; ZAPASSKIY, S.I., dotsent:

Permissible closing errors in polar conditions. Izv. vya.
ucheb. zav.; geod. i aerof. no.2481-82 '65.

(MIFA 18 10

1. Leningradskoye vyssheye inzhenernoye morskoye uchilishche
imeni akademika Makarova. Submitted Oct. 12, 1964.

L 11602-66 EWT(1) GW

ACC NR: AT5028157

(A)

SOURCE CODE: UR/3172/64/000/053/0309/0314

33

AUTHOR: Nikiforov, B. I. (Doctor of technical sciences, Professor)

ORG: All Union Scientific Research Institute of Mining Geomechanics and Mine Surveying, Leningrad (Vsesoyuznyy nauchno-issledovatel'skiy institut gornoy geomekhaniki i marksheyderskogo dela)

TITLE: Accounting for the declination of plumb lines when projecting measured distances onto a reference ellipsoid

12,4455

SOURCE: ^{qM} Leningrad. Vsesoyuznyy nauchno-issledovatel'skiy institut gornoy geomekhaniki i marksheyderskogo dela. Trudy, no. 53, 1964. Gornoye davleniye, sdvizheniye gornykh porod i metodika marksheyderskikh rabot (Rock pressure, rock displacement, and methods of mine surveying), 309-314

TOPIC TAGS: radar rangefinding, optic range finder, ground survey

ABSTRACT: The author derives a formula for calculating the correction for plumb line declination when measuring lengths by breaking them up into individual short spans (measuring by wires, tapes, etc.), as well as for measurements by phototachymeter and radio range finding. The correction for plumb line declination will be

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2

L 14602-66

ACC NR: AT5028157

negative if the slope of the tangent to the graded surface with respect to the tangent of the ellipsoid has the same sign as the slope of the line connecting the final points of the length to be measured. The correction is positive if these slopes have opposite signs. A table is given showing the relative error in calculation of the correction for declination. The limits of applicability of the proposed formulas are discussed. Orig. art. has: 2 figures, 1 table, 13 formulas.

SUB CODE: 17/ SUBM DATE: 00/ ORIG REF: 006/ OTH REF: 000

FW
Card 2/2

NIKIFOROV, I. I.

28211

Urvnivawiye nivvelirnykh syetyey. uchyenzapiski (vyssh. arkt. mor. uchilishchye.
Im. Adm. Makarova), vyp. 1, 1949, s. 169-85

SO. LETOPIS NO. 34

MIKHFOROV, B. I.

Mine Surveying

Methods of approximation methods of equalization. (Trudy, TNEI 22:195)

9. Monthly List of Russian Accessions, Library of Congress, October 195~~8~~⁹, Uncl.
2

NIKIFOROV, B. I.

NIKIFOROV, B.I., prof.; LAVROV, V.N., kand. tekhn. nauk.

**Feasibility of using selsyns in mine surveying. [Trudy] VNIIMI no.31:
156-157 '57.**

(MIRA 11:1)

(Mine surveying)

FILATOV, S.A., kand.tekhn.nauk, otv.red.; RASHKOVSKIY, Ya.Z., starshiy inzh., red.; NIKIFOROV, B.I., prof., doktor tekhn.nauk; SHUL'GO, Ye.I., inzh., starshiy nauchnyy sotrudnik. Prinimali uchastiye: MIL'NER, Ye.S., inzh., red.; ZEBODE, I.V., inzh., red. SLAVOROSOV, A.Kh., red.izd-va; LOMILINA, L.N., tekhn.red.

[Technical instructions on mine surveying] Tekhnicheskaya instruktsiya po proizvodstvu marksheiderskikh rabot. Leningrad, Ugletekhizdat, 1959. 371 p. (MIRA 13:12)

1. Nachal'nik otdela metodiki marksheyderskikh rabot Vsesoyuznogo nauchno-issledovatel'skogo marksheyderskogo instituta (for Filatov).
 2. Tekhnicheskoye upravleniye Gosgortekhnadzora SSSR (for Rashkovskiy).
 3. Vsesoyuznyy nauchno-issledovatel'skiy marksheyderskiy institut (for Shul'go).
 4. Glavnyy marksheyder ugol'nogo kar'yera No.1 tresta Korkinugol' (for Mil'ner).
 5. Nachal'nik tekhnicheskogo otdela Soyuzmarkhtresta (for Zebode).
- (Mine surveying)

NIKIFOROV, B.I.

Efficient series in adjusting trilaterations. Geod. i kart.
no.4:14-16 Ap '63. (MIRA 16:6)
(Triangulation)

NIKIFOROV, B.I., prof., doktor tekhn.nauk

Absolute determinations by phase systems. Sudovozhdenie no.2:
41-48 '62. (MIRA 17:4)

1. Kafedra geodezii Leningradskogo vysshego inzhenernogo morskogo
uchilishcha im. admirala Makarova.

L 28545-66 ENT(1) CW

ACC NR: AR6004309

SOURCE CODE: UR/0270/65/000/010/0020/0020

AUTHOR: Nikiforov, B. I.

25
B
9M

TITLE: Calculation of the deviation of plumb lines in projecting measured distances on an ellipsoid of reference

SOURCE: Ref. zh. Geodeziya, Abs. 10. 62. 191

REF SOURCE: Tr. Vses. n.-i in-ta gorn. geomekhan. i marksheyd. dela, 1964, sb. 53, 309-314

TOPIC TAGS: geodetic survey, distance measuring equipment, error correction

ABSTRACT: The author presents a derivation of a formula for the calculation of the correction for the deviation of plumb lines in the run of bases measured by wires or strips, as well as by means of a light range finder or a radio range finder. The formula for the correction has the same form in both cases. Critical remarks are made with respect to the formula given in the "Instruction on the construction of the state geodetic network of the Union of the SSR" for the permissible error in the determination of the altitude difference of the terminal points of the line measurable by a light range finder or a radio range

Card 1/2

UDC: 528.061

L 28545-66

ACC NR: AR6004309

finder. Bibliography of 6 titles. M. R. [Translation of abstract]

SUB CODE: 08 / SUBM DATE: none

Card 2/2 *CU*

NIKIFOROV, B.I. (Minsk); PIVOVAR, A.I. (Minsk)

Hemangiomas of the placenta and their clinical significance for the fetus. Arkh. pat. 51(1):10-15, 1955.

(MIRA 14-8)

1. Kafedra patoligicheskoy anatomii (prof. D. Yul. G. Kabanov);
2-ya kafedra akusherstva i ginekologii (prof. I. F.
Drobenya) Minskogo meditsinskogo instituta.

ACC NR: AP6036399

(A)

SOURCE CODE: UR/0154/66/001, /0047/0050

AUTHOR: Nikiforov, B. I. (Professor; Doctor of technical sciences)

ORG: Leningrad Higher Engineering Naval School (Leningradskoye vyssheye inzhenernoye morskoye uchilishche)

TITLE: Polygonal conditions of trilateration

SOURCE: IVUZ. Geodeziya i aerofotos"yemka, no. 4, 1966, 47-50

TOPIC TAGS: geodesy, triangulation, polygonometry

ABSTRACT: The paper deals with the solution of triangles in a triangulation net, which is elongated in one direction and which is one triangle wide. Such conditions are known as polygonal and may be fully defined by a set of equations describing the sides of the triangles:

$$\left. \begin{aligned} \sum_{i=1}^n a_i v_i + \sum_{i=1}^{n-1} a_{r_i} v_{r_i} + w_1 &= 0 \\ \sum_{i=1}^n b_i v_i + \sum_{i=1}^{n-1} b_{r_i} v_{r_i} + w_2 &= 0 \\ \sum_{i=1}^n c_i v_i + \sum_{i=1}^{n-1} c_{r_i} v_{r_i} + w_3 &= 0 \end{aligned} \right\}$$

Card 1/2

UDC: 528. 35 : 528. 14

ACC NR: AP6036399

where w is a free member needed to balance each equation, a, b, c are the coefficients which are numerically equal to the partial derivatives of the above equations, and v is the correction to the measured length of the side of a triangle. The free members are computed from the coordinates of the triangle's vertices. However, such formulas become cumbersome, if the number of triangles is considerable. To simplify the work, equations are derived which involve the cotangents of the triangle's angles. Corrections are calculated for each of the two sides of the angle. Orig. art. has: 2 figures, 12 formulas.

SUB CODE: /2,08/

SUBM DATE: 22Feb66/

ORIG REF: 004

Card 2/2

137-58-4-6816

Translation from: Referativnyy zhurnal, Metallurgiya, 1958 Nr 4 p 72 USSR

AUTHORS: Sychev, A. P., ~~Nikiforov, B. K.~~

TITLE: Experience in the Treatment of Copper Dross in an Electric Furnace (Opyt pererabotki mednykh shlikerov v elektropechi)

PERIODICAL: Sb. tr. Vses. n.-i. in-ta tsvetn. met., 1956, Nr 1 pp 69-78

ABSTRACT: Electric smelting of Cu drosses yields commercial matte low-copper crude Pb, and speiss in which there is a concentration of As. Furnace treatment of drosses is at low electrode voltages. The best results are obtained with a charge consisting of 20% Pb concentrate, 30% pyrite cinders, and 6% coke breeze. The Pb yield in the crude metal was 81%, the Cu in the matte came to 81%, the Pb in the speiss 14%, the Cu in the crude Pb 2%, and the As in the speiss 27%.

1. Metallurgy--USSR 2. Copper waste--Control systems

G S

Card 1/1

SHARDANOV, A.N.; NIKIFOROV, B.M.

Geological history and structure of the Yeysk-Berezn' region in the
Scythian platform. Trudy KF VNI no.1:118-136 '59. (MIRA 16:9)
(Caucasus, Northern—Geology, Structural)

SHARDANOV, A.M.; VOSKRESENSKIY, I.A.; NIKIFOROV, B.M.

Lithofacies and sedimentation in the Mesocenozoic of the
Yeisk-Berezan' area of the Scythian platform. Trudy *KF* VII
no.3:120-142 '69. (MIRA 13:11)
(Krasnodar Territory--Geology)

ALADATOV, G.M.; BEDCHER, A.Z.; NIKIFOROV, B.M.; STOLOVITSKIY, G.M.;
SHARDANOV, A.N.

Boundary of the Paleozoic and Mesozoic in the Yeisk-Berezan' region
of the Scythian Platform. Trudy KF VNII no.6:113-121 '61.
(MIRA 15:2)
(Krasnodar Territory--Geology, Structural)

SHARDANOV, A.N.; KIYKO, K.I.; ALADATOV, G.M.; NIKIFOROV, B.M.

Formation of the folded structure in the Yeisk-Berezan' region
of the Scythian platform. Trudy VNIGNI no.34:164-178 '61.

(MIRA 15:7)

(Krasnodar Territory--Folds (Geology))
(Krasnodar Territory--Condensate oil wells)

SHIMANSKIY, A.A.; ALADATOV, G.M.; NIKIFOROV, B.M.

~~Formation~~ and characteristics of the distribution of
gas-condensate pools in the Yeysk-Berezan' District
(Krasnodar Territory). Trudy KF VNII no.10:3-18 '62.
(MIRA 15:11)
(Krasnodar Territory—Condensate oil wells)

ALADATOV, G.M.; NIKIFOROV, B.M.; SHIMANSKIY, A.A.

Distribution of Pre-Cambrian, Paleozoic, Triassic, and Jurassic
sediments in western Ciscaucasia (Yeysk-Berezan' gas-bearing
region). Trudy KF VNII no.10:136-148 '62. (MIRA 15:11)
(Krasnodar Territory--Geology)

NIKIFOROV, B.M.

DRIBINSKIY, M.B.; NIKIFOROV, B.M.

Simplified apparatus for ether-oxygen anesthesia. Khirurgia no.7:
80-81 J1 '54. (MLRA 7:10)

1. Iz khirurgicheskogo otdeleniya (zav. M.B.Dribinskiy) Kalinin-gradskogo oblastnogo onkologicheskogo dispansera (glavnyy varch Shakhvorostova)

(ANESTHESIA, ENDOTRACHEAL, apparatus and instruments, intubation appar. for ether-oxygen anesth.)

NIKIFOROV, B.M. (Leningrad)

Individual differences of the deep sinus formations of the longitudinal fissure of the brain. Vop.neirokhir. 24 no.5:14-20 3-0 '60. (MIRA 13:11)

1. Laboratoriya operativnoy neyrokhirurgii Leningradskogo neyrokhirurgicheskogo instituta imeni A.L. Polenova i kafedra operativnoy khirurgii Leningradskogo pediatricheskogo instituta.
(BRAIN)

NIKIFOROV, B.M. (Leningrad, K-18, 2-y Murinskiy pr., 3, kv.70)

Individual differences in the venous sinus. Arkh. anat. gist. i
embr. 39 100-103 '60. (MIRA 14:2)

1. Laboratoriya neyrokhirurgicheskoy anatomii (zav. - prof. Ye.M.
Margorin) Leningradskogo neyrokhirurgicheskogo instituta im. A.L.
Polenova i kafedra operativnoy khirurgii (zav. - prof. Ye.M.
Margorin) Leningradskogo pediatricheskogo meditsinskogo instituta.
(BRAIN—BLOOD VESSELS)

UGRYUMOV, V.M., prof., otv. red.; BEKHTEREVA, N.P., doktor med. nauk, red.; VOLKOV, A.A., red.; DOLGOPOLOVA, G.A., red.; NIKIFOROV, B.M., red.; RACHKOV, B.M., red.; RASTORGUYEV, A.V., red.; TELEGINA, A.A., red.; YATSUK, S.L., red.; LEVIN, M.V., takhn. red.

[Proceedings of the Fourth Joint Scientific Conference of Young Neurosurgeons] Chetvertaia ob"edinennaia nauchnaia konferentsiia molodykh neirokhirurgov, trudy. Leningrad. Medgiz. 1961. 414 p. (MLA 15:6)

1. Ob"yedinennaya nauchnaya konferentsiya molodykh neyrokhirurgov, 4th. 2. Leningradskiy neyrokhirurgicheskii institut im. prof. A.L. Polenova (for Volkov, Dolgopolova, Yatsuk, ~~Rachkov~~). 3. Laboratoriya operativnoy neyrokhirurgii Leningradskogo neyrokhirurgicheskogo instituta imeni prof. A.L.Polenova (for Nikiforov, ~~Telegina~~). 4. Kafedra operativnoy khirurgii pediatricheskogo meditsinskogo instituta, Leningrad (for Nikiforov, Telegina, Yatsuk). 5. Direktor Leningradskogo nauchno-issledovatel'skogo neyrokhirurgicheskogo instituta im. prof. A.L.Polenova (for Ugryumov). (NERVOUS SYSTEM--SURGERY)

NIKIFOROV, B.M. (Leningrad)

Veins of the longitudinal fissure of the brain and picture of
the corpus callosum. Vop.neirokhir. 25 no.2:14-18 Mr-Ap '61.
(MIRA 14:6)

1. Laboratoriya operativnoy neyrokhirurgii Neyrokhirurgicheskogo
instituta imeni A.L. Polenova i kafedra operativnoy khirurgii
Pediatricheskogo meditsinskogo instituta.
(BRAIN--BLOOD SUPPLY)

NIKIFOROV, B.M., (Leningrad D-25, Povarskoy pereulok, d.2kv.3); MOF.MOVA,
V.S.

Calve's syndrome in eosinophilic granuloma of the spine with
compression of the spinal cord. Ortop. travm. i protez. 26
no.6:64-66 Je '65. (MIRA 18:8)

1. Iz kafedry nervnykh bolezney (zav.- prof. Ye.F. Davidenkova)
Leningradskogo pediatricheskogo meditsinskogo instituta.

KUZNETSOVA, A.S.; NIKIFOROV, B.M.

Clinical aspects and diagnosis of aneurysms of the middle cerebral artery. Zhur. navr. i psikh. 65 no.10:1441-1446 '65.

(MIRA 18:10)

1. Kafedra nervnykh bolezney (zaveduyushchiy - prof. Ye.F. Davidenkova) Leningradskogo pefiatricheskogo meditsinskogo Instituta (direktor - dotsent Ye.P.Semencva).

ACCESSION NR: AP4022963

S/0079/64/034/003/0914/0916

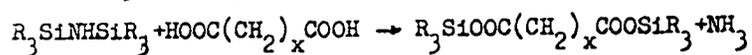
AUTHOR: Andrianov, V. A.; Astakhin, V. V.; Nikiforov, B. P.

TITLE: The reaction of hexaalkyldisilazanes with carboxylic acids and diatomic phenols

SOURCE: Zhurnal obshchey khimii, v. 34, no. 3, 1964, 914-916

TOPIC TAGS: Hexaalkyldisilazane, carboxylic acid, diatomic phenol, monobasic acid, silicon organic ester, bis trialkylsiloxy benzene

ABSTRACT: The reactions of separation of hexaalkyldisilazanes by saturated monobasic and dibasic acids, and by diatomic phenols are studied. Hexamethyldisilazane, acetic, propionic and adipic acids, hydroquinone and resorcin were studied as initial products. It was established that hexaalkyldisilazanes react with the acids according to the equations:

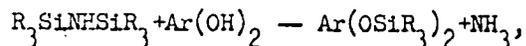


Card 1/3

R=CH₃, C₂H₅

ACCESSION NR: AP4022963

The reaction of hexaalkyldisilazanes with diatomic phenols proceeds according to the schematic:



where Ar is the bivalent aromatic radical. It was indicated that hexaalkyldisilazanes react with saturated monobasic acids with a formation of complex silicon organic esters and ammonium acid salts. The dibasic acids react with hexaalkyldisilazanes causing precipitation of ammonia and the formation of complex silicon organic esters. During separation of hexaalkyldisilazanes by bivalent phenols, ammonia is precipitated and bis (trialkylsiloxy) benzenes are formed. Orig. art. has: 1 table.

Card 2/3

ACCESSION NR: AP4022963

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR
(Institute of Organometallic Compounds, Academy of Sciences, SSSR); Vsesoyuznyy
elektrotekhnicheskiy institut (All-Union Electrical Engineering Institute)

SUBMITTED: 07Feb63

DATE ACQ: 15Apr64

ENCL: 00

SUB CODE: CH

No. REF: SOV: 002

OTHER: 000

Card 3/3

ZAYKOV, S.T.; KRAVTSOV, P.Ya.; NIKIFOROV, B.V.; KOVAL', V.Ye.; TSHIGULIN, V.I.;
RUBINSKIY, P.S.; LIFSHITS, S.I.; YEVSTAF'YEV, Ye.I.; NIKONOV, V.F.;
VUZLINSKIY, A.G.

Using oxygen-blown converter steel in automobile manufacture.
Met. i gornorud. prom. no.4:26-31 J1-Ag '64.

(MIRA 18:7)

ZAYKOV, S.F., kand. tekhn. nauk; NIKIFOROV, B.V.; KOVAL', V.Ye.;
RUBINSKIY, P.S.

Working out nomograms for the calculation of additions during
the converter smelting process. Met. i gornorud. prom. no.4:
25-29 J1-Ag '65. (MIRA 18:10)

~~NIKIFOROV, Dmitriy Ivanovich~~; CHISTYAKOV, S.V., otvetstvennyy redaktor;
KUZNETSOV, A.D., redaktor izdatel'stva; KOTLYAKOVA, O.I., tekhnicheskii redaktor.

[Photogrammetry in marine studies below hydraulic structures] Foto-grammetriia v morskikh issledovaniakh pod gidrotekhnicheskie sooruzheniia. Leningrad, Izd-vo "Morskoi transpor," 1957. 149 p.
(MLRA 10:5)

(Photogrammetry) (Hydraulic engineering)

NIKIFOROV, E., mekhanik-voditel' 1-go klassa, serzhant

Across shifting sand dunes. Starsh.-serzh. no.6:30-31 Je '62.
(MIRA 15:7)

(Tanks (Military science))

NIKIFOROV, E. P.

27207 NIKIFOROV, E. P. - Ratsional'naya Rasstavovka Oborudovaniya Vinodel'ni.
Vinodelie I Vinogradarstvo Moldavii, 1969, No. 4, s. 19-21.

SO: Letopis' Zhurnal'nykh Statey, Vol. 10, 1969.

NIKIFOROV, F.

Best models available to everybody. Mest.prom. i khud.promys.
2 no.12:16-17 D '61. (MIRA 14:12)
(Household appliances, Electric)
(House furnishings)

NIKIFOROV, F.G.

✓ 4-236

551.356.532.593

3

Nikiforov, F.G., K eksperimental'nomu izucheniiu mekhanizma zorozhdeniia pervichnykh vetrovnykh voln. (F. G. Nikiforov, *Zhurnal Fizicheskoi Aeromekhaniki*, 1953, no. 1, p. 51-59, Nov 1, 1953. 2 figs., table, 4 refs. DLC—)

The mechanism producing wind waves is studied in the laboratory. The results of the experiments are presented. It is shown that the mechanism of wave formation is connected with the appearance of turbulence in the boundary layer of the water surface.

mediate energy of the wind is transferred to the water surface. When the limit of the boundary layer is reached, the flow becomes turbulent and the energy is transferred to the water surface.

boundary layer of the water surface. The results of the experiments are presented. It is shown that the mechanism of wave formation is connected with the appearance of turbulence in the boundary layer of the water surface.

turbulence in the boundary layer of the water surface. The results of the experiments are presented. It is shown that the mechanism of wave formation is connected with the appearance of turbulence in the boundary layer of the water surface.

to the water surface. The results of the experiments are presented. It is shown that the mechanism of wave formation is connected with the appearance of turbulence in the boundary layer of the water surface.

date of presentation. Original readings: 1. Wind wave formation 2. Turbulence effects. —I.L.D.

6/1 mt

NIKIFOROV F.N.

PERVUPHIN, M.G.; LOGINOV, F.G.; ZHIMERIN, D.G.; PAVLENKO, A.S.;
KULEV, I.A.; DONCHENKO, V.I.; DROBYSHEV, A.I.; DMITRIYEV, I.I.;
YERMAKOV, V.S.; SOSNIN, L.A.; PODUSHKIN, A.S.; SMIRNOV, M.S.;
TARASOV, N.Ya.; NIKOL'SKIY, G.P.; KRYLOV, N.A.; KOPEV, G.I.;
ACHKASOV, D.I.; VESELOV, N.D.; CHIZHOV, D.G.; UGORETS, I.I.;
NIKIFOROV, F.N.; FLATONOV, N.A.

Vladimir Nikolaevich Sergeev; obituary. Wlek. sta. 27 no.3:63 Mr
'56. (MIRA 9:8)

(Sergeev, Vladimir Nikolaevich, 1903-1956)

NIKIFOROV, G.

Press for the manufacture of building soil blokes constructed by
students. Prof.-tekh. obr. 18 no.2.10 F '61. (MIRA 14:3)
(Barnaul—Building blocks)
(Power presses)

DYUMAYEV, K.M.; NIKIFOROV, G.A.

Inhibitors of free radical reactions. Report No.1. Synthesis of
trialkyl-substituted phenols and their derivatives. Neftekhimiia 1
no.1:93-99 Ja-F '61. (MIRA 15:2)

1. Institut khimicheskoy fiziki AN SSSR.
(Phenols)

89406

5.3400 1209

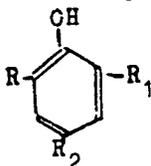
S/062/61/000/001/015/016
B101/B220

AUTHORS: Dyumayev, K. M., Nikiforov, G. A., and Silayev, Yu. V.

TITLE: Inhibitors of free radical reactions

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
no. 1, 1961, 168-170

TEXT: The purpose of the present study was to obtain inhibitory, screened phenols of the general type



Homologs of ionol(2,6-di-tert-butyl-4-methyl phenol) with ortho-substituents of C₅ to C₈ were synthesized by alkylation of p-cresol with olefins.

Tertiary alcohols were obtained by reaction of acetone with magnesium alkyl halide and dehydrated to olefins by means of H₂SO₄. The olefins

Card 1/3

89406

Inhibitors of free radical reactions

S/062/61/000/001/015/016
B101/B220

were added to p-cresol in the presence of H_2SO_4 at 65-70°C. Thus, the following compounds resulted: 2,6-di-(1',1'-dimethyl-propyl)-4-methyl phenol (I); 2,6-di-(1',1'-dimethyl-butyl)-4-methyl phenol (II); 2,6-di-(1',1'-dimethyl-amyl)-4-methyl phenol (III); and 2,6-di-(1',1'-dimethyl-hexyl)-4-methyl phenol (IV). The infra-red spectra of these compounds are shown in a figure. Ter-Vartanyan, Shershavova, and Solov'yeva investigated the inhibitory effect of these compounds by comparing their induction period for the oxidation of lard with that of ionol as standard. The inhibitory effect did not differ from that of ionol. In particular, however, the length of the chain was found to have no influence on the inhibitory effect. Of special interest were the higher stability in air and the better solubility of the compound (I) (compared with the other compounds). The reason for the poor yield of products with $C_6 - C_8$ as compared to those with $C_4 - C_5$ has not been studied, but is attributed to more intensive polymerization of the $C_6 - C_8$ olefins. H. M. Emanuel' is mentioned. There are 1 figure, 1 table, and 11 references: 9 Soviet-bloc and 4 non-Soviet-bloc.

Card 2/3

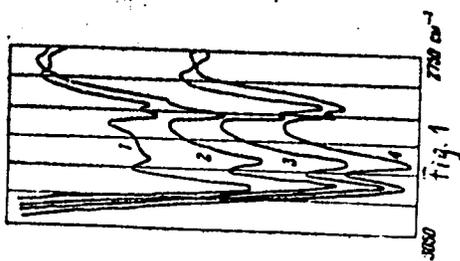
89406

Inhibitors of free radical reactions

S/062/61/000/001/015/016
B101/B220

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR
(Institute of Chemical Physics, Academy of Sciences USSR)

SUBMITTED: June 7, 1960



Legend to Fig. 1:
1) compound (I); 2) compound
(II); 3) compound (III);
4) compound (IV).

Card 3/3

NIKIFOROV, G.A.; DYUMAYEV, G.A.

Synthesis of 3,5-di-tert-butyl-4-hydroxybenzylamine and
3,5-di-(1',1'-dimethylpropyl)-4-hydroxybenzylamine. Izv.
AN SSSR. Otd. khim. nauk no. 1:171-172 Ja '61. (MIRA 14:2)

1. Institut khimicheskoy fiziki AN SSSR.
(Benzylamine)

NIKIFOROV, G.A.; DYUMAYEV, K.M.

Inhibitors of free radical reactions. Self-alkylation of 3,5-di-
tert-butyl-4-oxybenzylamine. Dokl. AN SSSR 141 no.2:368-370
N '61. (MIRA 14:11)

1. Institut khimicheskoy fiziki AN SSSR. Predstavleno akademikom
V.N.Kondrat'yevym.
(Radicals (Chemistry)) (Benzylamine)

NIKIFOROV, G.A.; DYUMAYEV, K.M.; VOLCHKIN, A.A.; YERSHOV, V.V.

Inhibitors of free radical reactions. Report No.3: Formylation
of 2,6-dialkylphenols. Izv. AN SSSR.Otd.khim.nauk no.10:1836-1838
0 '62. (MIRA 15:10)

1. Institut khimicheskoy fiziki AN SSSR.
(Phenol) (Formylation) (Benzaldehyde)

YERSHOV, V.V.; VOLOD'KIN, A.A.; NIKIFOROV, G.A.; DYMAYEV, K.M.

Sterically hindered phenols. Report No.6: Bromination of 2,6-dialkyl-p-cresols and 3,5-dialkyl-4-hydroxybenzyl bromides. Izv. AN SSSR. Ot khim.nauk no.10:1839-1843 O '62. (MIRA 15:10)

1. Institut khimicheskoy fiziki AN SSSR.
(Cresol) (Bromination) (Rearrangements (Chemistry))

YERSHOV, V.V.; ZLOBINA, G.A.; NIKIFOROV, G.A.

Nitration and nitrosation of 2,6-dialkylphenols. Izv. AN SSSR
Ser.khim. no.10:1877-1880 0 '63. (MIRA 17:3)

1. Institut khimicheskoy fiziki AN SSSR.

L 15475-63 EPR/EWP(j)/EPF(c)/EWT(m)/EDS AFFTC/ASD/APGC Pa-4/Pc-4/
Pr-4 BW/WV/RM/JFW/MN

ACCESSION NR: AF3005455 S/0204/63/003/004/0579/0583

AUTHORS: Karpukhin, O. N.; Ruzina, I. F.; Nikiforov, G. A.; 81
Shlyapintokh, V. Ya. 77

TITLE: Steric hindrance of phenolphthaleins and the possibility of their utilization in the study of oxidation-inhibiting processes

SOURCE: Neftekhimiya, v. 3, no. 4, 1963, 579-583

TOPIC TAGS: tetraisopropylphenolphthalein, phenolphthalein, naphthol, colorimetry, diphenylpicrylhydrazyl

ABSTRACT: In order to obtain a highly effective anti-oxidation inhibitor known as tetraisopropylphenolphthalein was synthesized. Phenolphthalein was taken as the base since it possesses colorimetric properties in an alkaline media. Two isopropyl groups were introduced into the phenolphthalein radical to produce an inhibitor which is close to the activity of alpha-naphthol. The concentration of this inhibitor can be easily measured colorimetrically through its

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ACCESSION NR: AP3005455

intensive and stable coloration in an alkaline media. The sensitivity of tetraisopropylphenolphthalein analysis is several times greater than the sensitivity of diphenylpicrylhydrazyl. The kinetics of tetraisopropylphenolphthalein consumption was measured in the oxidation reaction of ethylbenzol initiated with azobisisobutyronitrile. It is suggested that tetraisopropylphenolphthalein should be used in the study of kinetics and mechanism of the oxidation-inhibiting processes for the measurement of the rate of formation of free radicals in the solutions. The authors express their gratitude to L. G. Bulavin for his advice to use inhibitors for radical reactions which have phthalein bases. The orig. art. has: 3 figures, 1 formula.

ASSOCIATION: Institut khimicheskoy fiziki, AN SSSR (Institute of chemical physics, AN SSSR)

SUBMITTED: 15Jun62

DATE ACQ: 09Jan63

ENCL: 00

SUB CODE: CH, PH

NO. REF SOV: 002

OTHER: 003

Card 2/2

Nikiforov, G. A.

AID Nr. 982-2 4 June

FREE-RADICAL REACTION INHIBITORS AS POTENTIAL RADIATION-
PROTECTIVE SUBSTANCES (USSR)

Nikiforov, G. A., and K. M. Dymayev. IN: Akademiya nauk SSSR.
Izvestiya. Otdeleniye khimicheskikh nauk, no. 4, Apr 1963, 721-723.

S/062/63/000/004/013/022

A series of substituted hydroxyphenylethylamines containing a hindered phenol group was synthesized at the Institute of Chemical Physics, Academy of Sciences USSR, in an attempt to apply the well known ability of hindered phenols to inhibit free-radical reactions to biological protection against ionizing radiation. The following method of synthesis of (3, 5-dialkyl-4-hydroxyphenyl)ethylamines was developed. The interaction of 4-hydroxy-3, 5-dialkylbenzaldehydes with nitromethane in the presence of alkaline catalysts, such as ammonium acetate, was

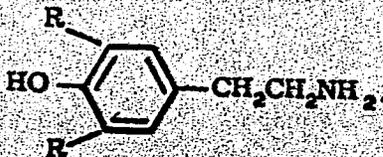
Card 1/2

AID Nr. 982-3 4 June

FREE-RADICAL REACTION INHIBITORS [Cont'd]

8/062/63/000/004/013/022

used to prepare the derivatives of *o*-nitrostyrene as intermediates, which were then hydrogenated over platinum black to the 3,5-dialkyl-4-hydroxyphenylethylamines,



The 3,5-dimethyl-, -diisopropyl-, -di-tert-butyl-, and -dicyclohexyl- compounds were prepared in 51.3 to 77.1% yields at reaction temperatures of 86 to 107°C. The amine hydrochlorides melted at 197 to 265, 5°C. [BN]

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S/020/63/148/005/017/029
B117/B186

AUTHORS: Bystrov, V. F., Dyumayev, K. M., Lezina, V. P., Nikiforov, G. A.

TITLE: Study of the hydrogen bond by the n.m.r. method. Effect of steric hindrances on the hydrogen bond in di-orthoalkylphenols

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 5, 1963, 1077 - 1080

TEXT: The steric screening effect of the OH group on the hydrogen bond of some di-orthoalkylphenols was studied by protonmagnetic resonance with the aid of the ЯМР-УС-2 (YaMR-US-2) spectrometer at a frequency of 20.529 Mc at $20 \pm 2^\circ\text{C}$. The chemical shift of the protonmagnetic resonance signals τ was measured in the spectra of 2,6-xylene-, 2,6-diisopropylphenol and ionone(2,6-di-tert-butyl-4-methylphenol) as a function of their concentration in dry, alcohol-free CCl_4 , ether, acetone, and triethylamine. The

measurements RMS error: ± 0.02 showed that the change in the chemical shift of τ due to the OH group may be attributed entirely to the effect of the intermolecular hydrogen bond. When the substances investigated are diluted in ether, acetone and triethylamine, the τ are shifted towards a comparatively weak field, while, when they are diluted in CCl_4 they are shifted

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Study of the hydrogen bond by...

S/020/63/148/005/017/029
B117/B186

towards a stronger field. This shows that in the latter case the hydrogen bond between the phenol molecules is weaker. The importance of steric screening (volume of ortho-substituents) for cyclic association, in which mainly tetramers and only small amounts of dimers are formed, was studied in some alkylphenols dissolved in CCl_4 . When the number of ortho-substituents is increased, the band of the bound hydroxyl is shifted to higher frequencies and the shift from the H bond $\Delta\nu$ becomes smaller, probably due to its effective elongation. Owing to the weakening of the hydrogen bond the inhibiting activity decreases in the following order: 2,6-dimethyl-, 2,6-diisopropyl and 2,6-di-tert-butylphenyl, and a further growth of the $\text{C}_6\text{-C}_8$ radicals is prevented. In di-ortho-alkylphenols, dissolved in CCl_4 at low concentrations the chemical shift of τ on a horizontal section is dependent on the concentration. When the number of ortho-substituents is increased the "saturation" of this dependence takes place in the region of higher concentrations. In 2,6-di-tert-butylphenol and ionone, the shift of the hydroxyl is independent of the concentration. A comparison of the shifts of the hydroxyl signal $\Delta\nu$ on transition from the pure substance to the zeroth phenol concentration showed that the electron cloud of the O-H

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bond is considerably influenced by the substituents. When the alkyl group in o-position is introduced, the effect of the electric dipole field of the C-H bond can be assumed as one of the reasons for the change in the shift of the OH signal. This was confirmed by introducing a methyl group instead of hydrogen. The effect of substituents on the chemical shift of the OH group of phenols is at present being studied in detail. There are 4 figures and 1 table.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

PRESENTED: October 8, 1962, by V. N. Kondrat'yev, Academician

SUBMITTED: September 28, 1962

Card 3/3

NIKIFOROV, G.A.; DYUMAYEV, K.M.

Inhibitors of free radical reactions. Report No.5: Synthesis
of 3,5-dialkyl-4-hydroxyphenylalanines. Izv. AN SSSR. Ser.
khim. no.6:1068-1073 Je '64.

(MIRA 17:11)

1. Institut khimicheskoy fiziki AN SSSR.

NIKIFOROV, G.A.; YERSHOV, V.V.

Dakin reaction in the 4-hydroxy-3,5-dialkylbenzaldehyde series.
Izv.AN SSSR. Ser.khim. no.1:176-179 Ja '64. (MIRA 17:4)

1. Institut khimicheskoy fiziki AN SSSR.

NIKIFOROV, G.A.; YERSHOV, V.V.

Phenol-dienone conversions during the formation of 4-hydroxy-3,
5-dialkylbenzaldehyde salts. Izv. AN SSSR, Ser. khim. no. 2: 293-300
F '64. (MIRA 17:3)

1. Institut khimicheskoy fiziki AN SSSR.

L 6648-65 EWT(m)/EPF(c)/ENP(j)/EWA(b) Pg-4/Pr-4 ASD(r)/ESD(t) RM
ACCESSION NR: AP4042881 S/0062/64/000/007/1335/1337

AUTHOR: Nikiforov, G. A.; Yerashov, V. V.

53
52

TITLE: Spatially hindered aminophenols and quinodiazides

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1964, 1335-1337

TOPIC TAGS: aminophenol, quinodiazide, dialkylaminophenol, dialkylquinodiazide, synthesis, spatial hindrance, stability, diazotization, cancerolytic property, mutation property

ABSTRACT: Methods were worked out for the synthesis of 2,6-dialkyl-p-aminophenols and 2,6-dialkyl-p-quinodiazides. The former were prepared in good yield by the sodium hydrosulfite reduction at 50-60C of 2,6-dialkyl-p-nitrophenols (prepared by V. V. Erashov, G. A. Zlobina and G. A. Nikiforov, Izv. AN SSSR. Ser. Khim. 1963, 1877). These 2,6-dialkyl(dimethyl, diisopropyl, dihexyl, di-tert. butyl, diisooxyl, methylhexyl and methyltert.butyl)-p-aminophenols are very unstable and may be readily diazotized to the p-phenyldiazonium salts, and in turn alkalinized to the 2,6-dialkyl-p-quinodiazides. These are fairly stable but decompose slowly with evolution of nitrogen on standing in light and rapidly on heating. Their stability

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L 6648-65

ACCESSION NR: AP4042881

increases with increase in size of the 2,6-substituents. The cancerolytic and
mutation properties of these compounds are of interest. Orig. art. has: 2 tables
and 3 equations.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of
Chemical Physics, Academy of Sciences SSSR)

SUBMITTED: 25Dec63

ENCL: 00

SUB CODE: OC, LS

NO REF SOV: 004

OTHER: 003

Card 2/2

NIKIFOROV, G.A.; VOLOD'KIN, A.A.; DYUMAYEV, K.M.

Inhibitors of free radical reactions. Report No.6: Autoalkylation
in the 4-hydroxybenzylamine series. Izv.AN SSSR.Ser.khim. no.9:1661-
1666 S '64. (MIRA 17:10)

1. Institut khimicheskoy fiziki AN SSSR.

NIKIFOROV, G.A.; YERSHOV, V.V.

Radical deamination of 4-amino-2,6-dialkylphenols. Izv. AN SSSR.
Ser. khim. no.6:1097-1100 '65.

(MIRA 18:6)

1. Institut khimicheskoy fiziki AN SSSR.

NIKIFOROV, G. D.

" Development and Investigation of the Electric-Arc Automatic Welding Process for Aluminum Alloy Parts of Small Thickness." Thesis for degree of Cand. Technical Sci. Sub 30 Mar 50, Moscow Aviation Technological Inst

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva. Jan-Dec 1950.

185T80

USSR/Metals - Aluminum, Welding

Mar 51

"Welding Aluminum Alloys by the MATI Method," G. D. Nikiforov, Cand Tech Sci, Chair of "Welding Production," MATI (Moscow Avn Tech Inst)

"Avtogen Delo" No 3, pp 1-4

Method is based on welding under flux thin-walled constrs with arc, burning between infusable wolfram electrode and object to be welded. Electrode is moved along welding line with aid of special tractor. Electrode consumption is 0.015-0.06 g/m of joint. No addnl metal is used in process and joint is formed at expense of melted metal of flanging. Zone of thermal effect is insignificant. Metal of joints has fine cast structure.

USSR/Metals - Aluminum, Welding Mar 51 (Contd)

of melted metal of flanging. Zone of thermal effect is insignificant. Metal of joints has fine cast structure.

185T80